Baumann™ 85000 Sanitary Pinch Valve

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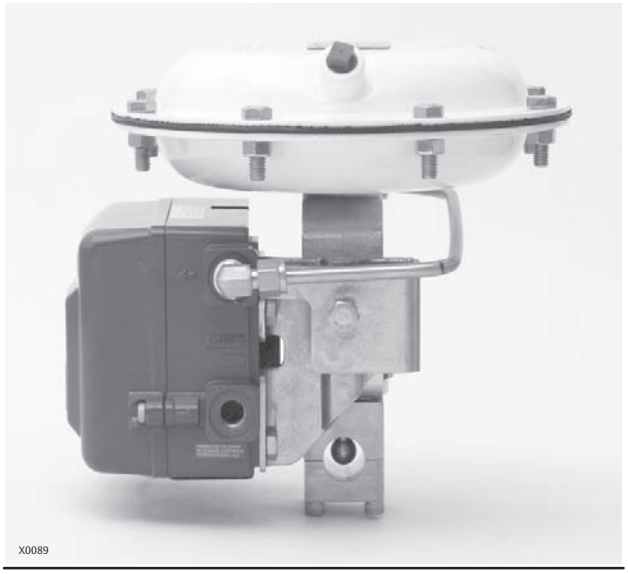
Figure 1. Baumann 85000 Sanitary Pinch Valve



Introduction

Baumann 85000 sanitary pinch valves (figure 1) are intended for use with pharmaceutical grade tubing.

Note

The maximum temperature and process pressure is dependent upon the type/grade of process tubing selected by the user.

Scope of Manual

This instruction manual includes installation, maintenance, and parts information for the 85000 sanitary pinch valve.

Do not install, operate, or maintain 85000 pinch valves without being fully trained and qualified in valve, actuator, and accessory installation, operation, and maintenance. To avoid personal injury or property damage, it is important to carefully read, understand, and follow all the contents of this manual, including all safety cautions and warnings. If you have any questions about these instructions, contact your Emerson Process Management sales office before proceeding.

⚠ WARNING

To avoid personal injury, keep fingers clear of tubing passage when flexible tubing is not installed in the valve body.

⚠ WARNING

Always wear protective gloves, clothing and eyewear when performing any installation operations to avoid personal injury.

Personal injury or property damage caused by sudden release of pressure or bursting of pressure retaining parts may result if service conditions exceed those for which the product was intended. To avoid injury or damage, provide a relief valve for over pressure protection as required by government or accepted industry codes and good engineering practices.

Check with your process or safety engineer for any additional measures that must be taken to protect against process media.

If installing into an existing application, also refer to the WARNING at the beginning of the Maintenance section in this instruction manual.

CAUTION

This valve is intended for a specific range of pressures, temperatures and other application specifications. Applying different pressures and temperatures to the valve could result in parts damage, malfunction of the control valve or loss of control of the process. Do not expose this product to service conditions or variables other than those for which the product was intended. If you are not sure what these conditions are you should contact your Emerson Process Management sales office for more complete specifications. Provide the product serial numbers (shown on the nameplate) and all other pertinent information.

⚠ WARNING

If you move or work on an actuator installed on a valve with loading pressure applied, keep your hands and tools away from the stem travel path to avoid personal injury. Be especially careful when removing the stem connector to release all loading on the actuator stem whether it be from air pressure on the diaphragm or compression in the actuator springs.

Likewise take similar care when adjusting or removing any optional travel stop. Refer to the relevant actuator Maintenance Instructions.

If hoisting the valve, take care to prevent people from being injured in case the hoist or rigging slips. Be sure to use adequate sized hoists and chains or slings to handle the valve.

Maintenance

⚠ WARNING

Avoid personal injury and property damage from sudden release of process pressure or bursting of parts. Before performing any maintenance operations:

- **Do not remove the actuator from the valve while the valve is still pressurized.**
- **Always wear protective gloves, clothing, and eyewear when performing any maintenance operations.**
- **Disconnect any operating lines providing air pressure, electric power, or a control signal to the actuator. Be sure the actuator cannot suddenly open or close the valve.**
- **Use bypass valves or completely shut off the process to isolate the valve from process pressure.**
- **Depending on the actuator construction, it will be necessary to manage the pneumatic actuator spring pre-compression. It is essential to refer to the relevant actuator instructions in this manual to perform safe removal of the actuator from the valve.**
- **Use lock-out procedures to be sure the above measures stay in effect while you work on the equipment.**
- **Check with your process or safety engineer for any additional measures that must be taken to protect against process media.**

⚠ WARNING

To avoid personal injury, keep fingers clear of tubing passage when flexible tubing is not installed in the valve body.

Assembly

1. Place four captive screws in the valve body.
2. Set two bushings in the bonnet, one after the other, so that the top bushing is flush with the top of the bonnet.
3. Place the stem in the bushing, as shown in figure 2, to ensure free movement.
4. Align the valve body and bonnet and tighten the screws to a maximum torque of 2.6 N•m (23 lbf•in).
5. Install the actuator assembly with the yoke clamp nut, two hex nuts, and the indicator washer. Ensure that the indicator washer is aligned.
6. Align the actuator with the valve body, tighten the yoke clamp nut and lock down nut.

⚠ WARNING

To avoid personal injury or property damage, do not attempt to perform any work on a valve while the system is in operation. The valve must be isolated 100% from the active system and the isolated line voided of pressure and/or hazardous fluids.

Air Piping

1. For an air-to-extend actuator (air-to-close action), connect the actuating air pressure line to the 1/4 NPT opening in the upper diaphragm case. For an air-to-retract actuator (air-to-open action) connect the actuating air pressure line to the 1/4 NPT in the lower diaphragm case.
2. Use 6.4 mm (1/4 inch) O.D. tubing or equivalent for all air lines. If air line exceeds 8 m (25 ft) in length, 9.5 mm (3/8 inch) tubing is preferred. Air lines must not leak. Air pressure is not to exceed 2.5 bar (35 psig).

Installation

1. Loosen all four captive screws and remove the valve body.
2. Install flexible tubing; ensure the spherical closure member is retracted.
3. Align the valve body with the bonnet and retighten the four captive screws to a maximum torque of 2.6 N•m (23 lbf•in).

Disassembly

CAUTION

When assembling or disassembling the valve, do not turn the valve stem. Turning the valve stem will affect calibration.

CAUTION

When adjusting the valve stem, do not grip the stem directly with pliers or a wrench. This will damage the surface of the stem, and cause damage to the bushings in the valve. Instead, counter-tighten the two locknuts on the stem together. This will allow you to turn the stem by turning the locknuts with a wrench.

Actuator Removal

Access to the internal components of the valve body can be accomplished with the actuator removed. For actuator maintenance see the following instruction manual (Baumann Actuator Instructions, D103352X012).

Air-to-Close Actuators

1. Disconnect the air supply to the actuator and remove the air tubing.
2. Loosen the drive nut and then remove the plug and stem assembly by holding the actuator stem still while unthreading the plug and stem assembly counterclockwise.
3. Remove the stem locknuts, travel indicator, and yoke drive nut.
4. Remove the actuator from the valve.
5. Disconnect the air supply to the actuator and remove the air tubing.

Air-to-Open Actuators

1. Using flexible tubing, apply sufficient air pressure to the actuator to lift the plug off the seat.
2. Loosen the drive nut and then remove the plug and stem assembly by holding the actuator stem still while unthreading the plug and stem assembly counterclockwise.
3. Remove the stem locknuts, travel indicator, and yoke drive nut.
4. Remove the actuator from the valve.
5. Disconnect the air supply to the actuator and remove the air tubing.

Actuator and Valve Body Reassembly

1. Place the actuator yoke over the stem. While tilting the actuator back, drop the yoke drive nut over the stem. Run the locknuts, and the travel indicator down as far as possible and counter tighten the locknuts to lock.

Carefully position the actuator over the stem, lift the plug stem, and turn the plug stem into the actuator stem as far as it will go before adjusting the travel.

Travel Adjustment

With the actuator mounted on the valve, turn the stem until a 4 mm (0.16 inch) clearance is left between the spherical surface of the plunger and the bottom surface of the valve body against which the flexible tubing will be compressed.

This 4mm (0.16 inch) clearance is appropriate for most types/grades of tubing, but if leakage is experienced it may be necessary to reduce this gap.

Setting the clearance too small may result in reduced tubing life.

⚠ WARNING

To avoid personal injury or equipment damage due to possible sudden shifting or falling of the valve assembly, do not lift the valve assembly by the handwheel.

Parts Ordering

When corresponding with your Emerson Process Management sales office about this equipment, always mention the valve serial number. When ordering replacement parts, also specify the part name using the following parts tables.

⚠ WARNING

Use only genuine Fisher® replacement parts. Components that are not supplied by Emerson Process Management should not, under any circumstances, be used in any Fisher valve, because they may void your warranty, might adversely affect the performance of the valve, and could cause personal injury and property damage.

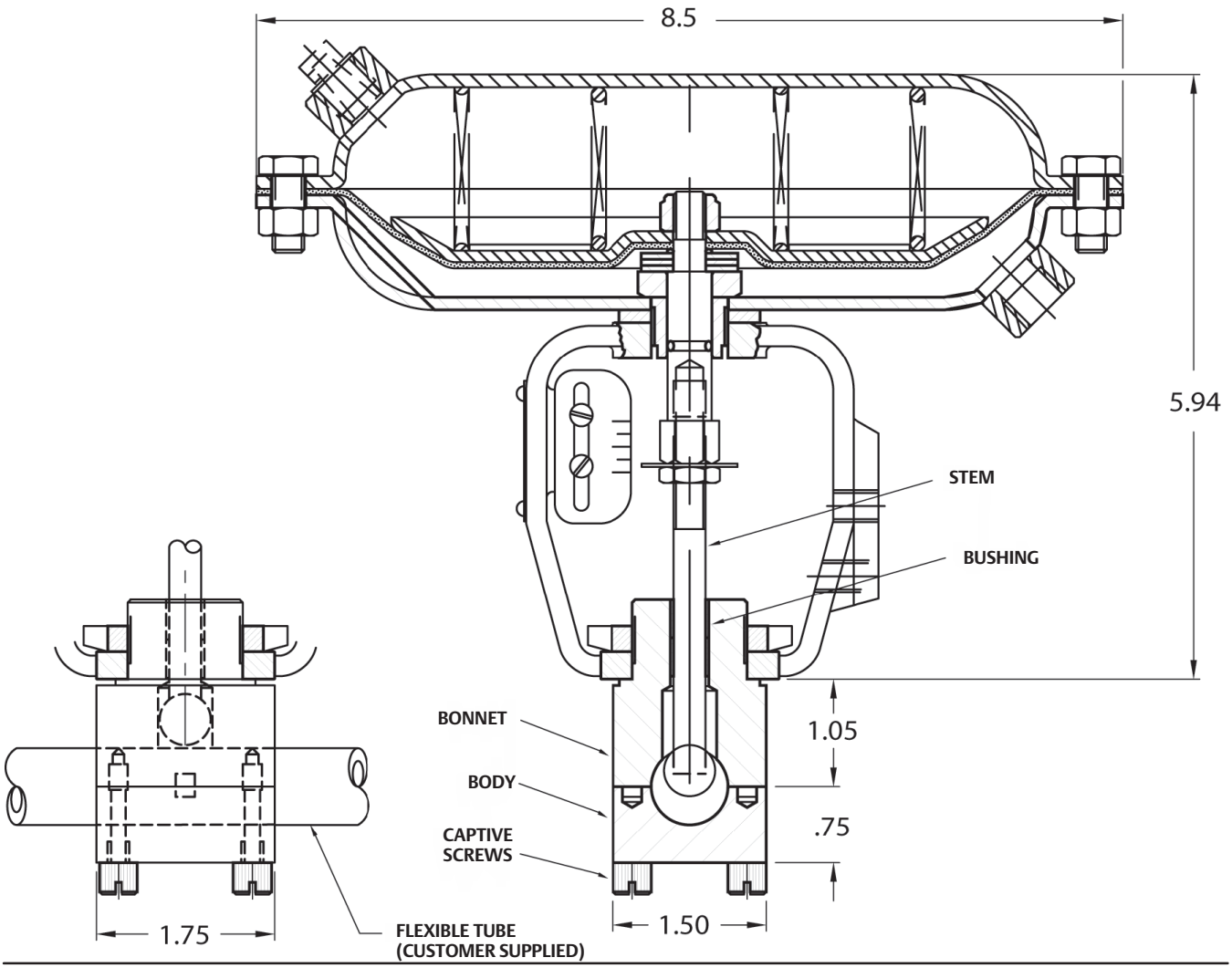
Note

Neither Emerson, Emerson Process Management, nor any of their affiliated entities assumes responsibility for the selection, use, or maintenance of any product. Responsibility for the selection, use, and maintenance of any product remains with the purchaser and end user.

Table 1. Parts List

Component	Part Number	Quantity
Bonnet	GE48200X012	1
Valve Body	GE48199X012	1
Stem	GE48280X012	1
Bushing	81186	2
Captive Screw	GE48222X012	4
Yoke Drive Nut	011757-003-153	1
Travel Indicator	011765-002-152	1
Stem Jam Nut	81841	1

Figure 2. Baumann 85000 Pinch Valve Dimensions



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Emerson Process Management
Marshalltown, Iowa 50158 USA
Sorocaba, 18087 Brazil
Chatham, Kent ME4 4QZ UK
Dubai, United Arab Emirates
Singapore 128461 Singapore

www.Fisher.com

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